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(PHOTODYNAMIC SAME (CYTOKINE OR FACTOR OR LYMPHOKINE).CLM.).USPT.	7

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DB=USPT; PLUR=YES; OP=ADJ

L2 photodynamic same (cytokine or factor or lymphokine).clm.

7

L2L1 photodynamic.clm.

182

L1

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L2: Entry 4 of 7

File: USPT

Apr 10, 2001

US-PAT-NO: 6214901

DOCUMENT-IDENTIFIER: US 6214901 B1

TITLE: Bioactive agent release coating

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chudzik; Stephen J.	St. Paul	MN		
Anderson; Aron B.	Minnetonka	MN		
Chappa; Ralph A.	Prior Lake	MN		
Kloke; Timothy M.	Eden Prairie	MN		

US-CL-CURRENT: 523/113; 424/78.18, 427/2.1, 427/2.3, 514/2, 606/195

CLAIMS:

What is claimed is:

1. A composition for coating the surface of a medical device with a bioactive agent in a manner that permits the coated surface to release the bioactive agent over time when implanted in vivo, the composition comprising a bioactive agent in combination with a plurality of polymers, including a first polymer component comprising at least one poly(alkyl)(meth)acrylate and a second polymer component comprising poly(ethylene-co-vinyl acetate), wherein the second polymer component is selected from the group consisting of poly(ethylene-co-vinyl acetate) polymers having vinyl acetate concentrations of between about 10% and about 50% by weight.
2. A composition according to claim 1 wherein the device is one that undergoes flexion and/or expansion in the course of implantation or use in vivo.
3. A composition according to claim 1 wherein the composition permits the amount and rate of release of agent(s) from the medical device to be controlled by adjusting the relative types and/or concentrations of polymers in the mixture.
4. A composition according to claim 1 wherein the first polymer component is selected from the group consisting of poly(alkyl)(meth)acrylates with alkyl chain lengths from 2 to 8 carbons.
5. A composition according to claim 1 wherein the vinyl acetate concentrations are between about 24% and about 36% by weight.
6. A composition according to claim 5 wherein the vinyl acetate concentrations are between about 30% and about 34% by weight.
7. A composition according to claim 1 wherein the composition comprises a mixture of poly(n-butylmethacrylate) and poly(ethylene-co-vinyl acetate).
8. A composition according to claim 7 wherein the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

9. A composition according to claim 1 wherein the composition further comprises a solvent in which the polymers form a true solution.

10. A composition according to claim 1 wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight.

11. A composition according to claim 10 wherein the bioactive agent is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers, vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

12. A composition according to claim 1 wherein the device is one that undergoes flexion and/or expansion in the course of implantation or use in vivo, the composition permits the amount and rate of release of agent(s) from the medical device to be controlled by adjusting the relative types and/or concentrations of polymers in the mixture.

13. A composition according to claim 12 wherein the first polymer component is selected from the group consisting of poly(alkyl) (meth)acrylates with alkyl chain lengths from 2 to 8 carbons.

14. A composition according to claim 13 wherein the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight, and the composition further comprises a solvent in which the polymers form a true solution.

15. A composition according to claim 1 wherein

a) the device is one that undergoes flexion and/or expansion in the course of implantation or use in vivo,

b) the composition permits the amount and rate of release of agent(s) from the medical device to be controlled by adjusting the relative types and/or concentrations of polymers in the mixture, and

c) the bioactive agent is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers, vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

16. A composition according to claim 15 wherein the first polymer component comprises poly n-butylmethacrylate and the vinyl acetate concentrations are between about 24% and about 36% by weight.

17. A composition according to claim 16 wherein the total combined

concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

18. A composition according to claim 15 wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight.

19. A composition according to claim 1 wherein the bioactive agent wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight and is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers, vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

20. A composition according to claim 19 wherein the composition permits the amount and rate of release of agent(s) from the medical device to be controlled by adjusting the relative types and/or concentrations of polymers in the mixture.

21. A composition according to claim 19 wherein the vinyl acetate concentrations are between about 24% and about 36% by weight and the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

22. A composition according to claim 21 wherein the composition further comprises a solvent in which the polymers form a true solution.

23. A composition according to claim 2 wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight and is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers, vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

24. A composition according to claim 23 wherein the composition further comprises a solvent in which the polymers form a true solution.

25. A composition according to claim 24 wherein the vinyl acetate concentrations are between about 24% and about 36% by weight and the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

26. A composition according to claim 6 wherein the bioactive agent wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight and is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers,

vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

27. A composition according to claim 26 wherein the composition further comprises a solvent in which the polymers form a true solution.

28. A composition according to claim 26 wherein the vinyl acetate concentrations are between about 24% and about 36% by weight and the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

29. A composition according to claim 12 wherein the bioactive agent wherein the bioactive agent is dissolved or suspended in the coating mixture at a concentration of 0.01% to 90% by weight and is selected from the group consisting of thrombin inhibitors, antithrombogenic agents, thrombolytic agents, fibrinolytic agents, vasospasm inhibitors, calcium channel blockers, vasodilators, antihypertensive agents, antimicrobial agents, antibiotics, inhibitors of surface glycoprotein receptors, antiplatelet agents, antimitotics, microtubule inhibitors, anti secretory agents, actin inhibitors, remodeling inhibitors, antisense nucleotides, anti metabolites, antiproliferatives, anticancer chemotherapeutic agents, anti-inflammatory steroid or non-steroidal anti-inflammatory agents, immunosuppressive agents, growth hormone antagonists, growth factors, dopamine agonists, radiotherapeutic agents, peptides, proteins, enzymes, extracellular matrix components, inhibitors, free radical scavengers, chelators, antioxidants, anti polymerases, antiviral agents, photodynamic therapy agents, and gene therapy agents.

30. A composition according to claim 29 wherein the composition further comprises a solvent in which the polymers form a true solution.

31. A composition according to claim 30 wherein the vinyl acetate concentrations are between about 24% and about 36% by weight and the total combined concentrations of both polymers in the coating composition is between about 0.25% and about 70% by weight.

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L2: Entry 1 of 7

File: USPT

Jul 23, 2002

US-PAT-NO: 6424863

DOCUMENT-IDENTIFIER: US 6424863 B1

TITLE: Delivery of pharmaceutical compounds and collection of biomolecules using electromagnetic energy and uses thereof

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Flock; Stephen T.	Mt. Eliza, 3930 VIC			AU
Marchitto; Kevin S.	Mt. Eliza, 3930 VIC			AU

US-CL-CURRENT: 604/20; 604/21, 604/22

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 2. Document ID: US 6389313 B1

L2: Entry 2 of 7

File: USPT

May 14, 2002

US-PAT-NO: 6389313

DOCUMENT-IDENTIFIER: US 6389313 B1

TITLE: Laser probes for drug permeation

DATE-ISSUED: May 14, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marchitto; Kevin S.	Mt. Eliza 3930 VIC			AU
Flock; Stephen T.	Mt. Eliza 3930 VIC			AU

US-CL-CURRENT: 604/21; 607/92

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 3. Document ID: US 6344035 B1

L2: Entry 3 of 7

File: USPT

Feb 5, 2002

US-PAT-NO: 6344035

DOCUMENT-IDENTIFIER: US 6344035 B1

TITLE: Bioactive agent release coating

DATE-ISSUED: February 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chudzik; Stephen J.	St. Paul	MN		
Anderson; Aron B.	Minnetonka	MN		
Chappa; Ralph A.	Prior Lake	MN		
Kloke; Timothy M.	Eden Prairie	MN		

US-CL-CURRENT: 604/265; 604/890.1, 604/891.1, 604/892.1, 623/1.42, 623/1.43, 623/1.46

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWC	Draw Desc	Image
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☐ 4. Document ID: US 6214901 B1

L2: Entry 4 of 7

File: USPT

Apr 10, 2001

US-PAT-NO: 6214901

DOCUMENT-IDENTIFIER: US 6214901 B1

TITLE: Bioactive agent release coating

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chudzik; Stephen J.	St. Paul	MN		
Anderson; Aron B.	Minnetonka	MN		
Chappa; Ralph A.	Prior Lake	MN		
Kloke; Timothy M.	Eden Prairie	MN		

US-CL-CURRENT: 523/113; 424/78.18, 427/2.1, 427/2.3, 514/2, 606/195

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RWC	Draw Desc	Image
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☐ 5. Document ID: US 6107466 A

L2: Entry 5 of 7

File: USPT

Aug 22, 2000

US-PAT-NO: 6107466

DOCUMENT-IDENTIFIER: US 6107466 A

TITLE: Acceleration of wound healing by photodynamic therapy

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hasan; Tayyaba	Arlington	MA		
Hamblin; Michael R.	Revere	MA		
Trauner; Kenneth	Sacramento	CA		

US-CL-CURRENT: 530/351; 530/399, 604/20, 607/88, 607/89

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 6. Document ID: US 6096070 A

L2: Entry 6 of 7

File: USPT

Aug 1, 2000

US-PAT-NO: 6096070

DOCUMENT-IDENTIFIER: US 6096070 A

TITLE: Coated implantable medical device

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ragheb; Anthony O.	West Lafayette	IN		
Bates; Brian L.	Bloomington	IN		
Fearnott; Neal E.	West Lafayette	IN		
Kozma; Thomas G.	West Lafayette	IN		
Voorhees, III; William D.	West Lafayette	IN		

US-CL-CURRENT: 623/1.39; 604/265, 604/508, 623/1.44, 623/1.49, 623/23.71

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 7. Document ID: US 5873904 A

L2: Entry 7 of 7

File: USPT

Feb 23, 1999

US-PAT-NO: 5873904

DOCUMENT-IDENTIFIER: US 5873904 A

TITLE: Silver implantable medical device

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ragheb; Anthony O.	West Lafayette	IN		
Bates; Brian L.	Bloomington	IN		
Fearnott; Neal E.	West Lafayette	IN		
Osborne; Thomas A.	Bloomington	IN		
Kozma; Thomas G.	West Lafayette	IN		
Roberts; Joseph W.	Minneapolis	MN		
Voorhees, III; William D.	West Lafayette	IN		

US-CL-CURRENT: 623/1.13; 604/265, 604/508, 623/1.44

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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FACTOR.USPT.	364590
FACTORS.USPT.	332288
LYMPHOKINE.USPT.	2864
LYMPHOKINES.USPT.	3619
(PHOTODYNAMIC SAME ((LYMPHOKINE OR CYTOKINE OR FACTOR).CLM.)).USPT.	7
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